

WHAT IS CLAIMED IS:

1                   1.       A laser arbor for a saw having a spindle that rotates a saw  
2 blade relative to a non-rotating portion of the saw, the laser arbor comprising:  
3                   a housing;  
4                   a laser light disposed at least in part within the housing;  
5                   a circuit electrically connected to the laser for providing power to the  
6 laser, the circuit providing power from a voltage source that includes a portion  
7 secured to the non-rotating portion of the saw.

1                   2.       The laser arbor for a saw having a spindle of claim 1 wherein  
2 the circuit further comprises a generator having a rotor associated with the spindle  
3 and a stator associated with the non-rotating portion of the saw, whereby electrical  
4 energy is generated as the spindle rotates the rotor relative to the stator.

1                   3.       The laser arbor for a saw having a spindle of claim 1 wherein  
2 the circuit further comprises a generator having a permanent magnet secured to a  
3 fixed guard and an arcuate coil section rotated by the spindle.

1                   4.       The laser arbor for a saw having a spindle of claim 1 wherein  
2 the circuit further comprises an inductively coupled power source comprising a first  
3 induction coil that is rotated by the spindle and a second induction coil that is on the  
4 non-rotating portion of the saw, and wherein power for the laser light is provided  
5 by the inductively coupled power source.

1                   5.       The laser arbor for a saw having a spindle of claim 1 wherein  
2 the circuit further comprises a power source electrically connected by slip ring  
3 contacts that establish electrical contact between the power source and the circuit,  
4 wherein the slip ring contacts comprise a first set of contacts that rotate with the saw  
5 blade and a second set of contacts that are stationary which contact the first set of  
6 contacts.

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1                   6.       The laser arbor for a saw having a spindle of claim 1 wherein  
2       the circuit further comprises a power conditioning circuit that provides power within  
3       a predetermined voltage range to the laser.

1                   7.       The laser arbor for a saw having a spindle of claim 1 wherein  
2       a fixed guard is part of the non-rotating portion of the saw.

1                   8.       A saw comprising:  
2                   a motor having a spindle;  
3                   a blade secured to the spindle and rotated by the motor to cut a  
4       workpiece;  
5                   a laser arbor having a housing secured to the spindle for rotation with  
6       the blade;  
7                   a light source disposed in the housing, the light source emitting a  
8       narrow beam of light adjacent the blade for providing a visual indication of the  
9       alignment of the blade with the workpiece; and  
10                  a generator electrically connected to the light source for providing  
11       power to the light source, wherein the generator includes a rotor associated with and  
12       rotated with the housing and a stator secured adjacent to the housing, the rotor being  
13       rotated by the motor relative to the stator for generating a electrical power for the  
14       light source.

1                   9.       The saw of claim 8 wherein the rotor is an electrical coil.

1                   10.      The saw of claim 9 wherein the stator is an electrical magnet.

1                   11.      The saw of claim 9 wherein the stator is a permanent magnet.

1                   12.      The saw of claim 9 wherein the rotor is electrically connected  
2       to a power conditioning circuit that provides power directly to the light source.

1                   13.      The saw of claim 8 wherein the light source is a LED laser.

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1                   14.     A saw comprising:  
2                   a motor having a spindle;  
3                   a blade secured to the spindle and rotated by the motor to cut a  
4     workpiece;  
5                   a laser arbor having a housing secured to the spindle for rotation with  
6     the blade;  
7                   a light source disposed in the housing, the light source emitting a  
8     narrow beam of light adjacent the blade for providing a visual indication of the  
9     alignment of the blade with the workpiece; and  
10                  an inductively coupled power source electrically connected to the  
11     light source, wherein the power source includes a first induction coil associated with  
12     and rotated with the housing and a second induction coil secured adjacent to the  
13     housing, the second induction coil inducing voltage in the first induction coil to  
14     provide power to the light source.

1                   15.     The saw of claim 14 wherein the rotor is electrically  
2     connected to a power conditioning circuit that provides power directly to the light  
3     source.

1                   16.     The saw of claim 14 wherein the light source is a LED laser.

1                   17.     A saw comprising:  
2                   a motor having a spindle;  
3                   a blade secured to the spindle and rotated by the motor to cut a  
4     workpiece;  
5                   a laser arbor having a housing secured to the spindle for rotation with  
6     the blade;  
7                   a light source disposed in the housing, the light source emitting a  
8     narrow beam of light adjacent the blade for providing a visual indication of the  
9     alignment of the blade with the workpiece; and  
10                  a generator electrically connected to the light source for providing  
11     power to the light source, the generator having a permanent magnet secured to a  
12     fixed guard and a coil rotated by the spindle.

- 1                   18.    A saw comprising:  
2                   a motor having a spindle;  
3                   a blade secured to the spindle and rotated by the motor to cut a  
4   workpiece;  
5                   a laser arbor having a housing secured to the spindle for rotation with  
6   the blade;  
7                   a light source disposed in the housing, the light source emitting a  
8   narrow beam of light adjacent the blade for providing a visual indication of the  
9   alignment of the blade with the workpiece; and  
10                  a power source electrically connected by a plurality of slip ring  
11   contacts that establish electrical contact with the light source, wherein the slip ring  
12   contacts comprise a set of rotating contacts that rotate with the blade and a set of  
13   fixed contacts that are stationary and are mounted on the saw to contact the first set  
14   of contacts.

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